(p. 105), he says "a few yeast spores of casein remain behind," which is nonsense; but the French text speaks of some "spores of the casein ferment," which is a very different matter. On page 292 it is said that "honey proves to be harder on diabetics on account of a slight preponderance of laevulose," but as diabetics assimilate laevulose somewhat better than dextrose the reverse should be the case. On page 323 an unfortunate translation is given of "aperients" for "*aperitifs*." We are unable to understand what is meant by saying (p. 340) "that beer may be justly called a non-calorific beverage"; the French text speaks of it as "*une boisson froide*," which means non-exciting. Altogether it is evident that the translator has undertaken a task for which he was hardly qualified.

NOTES ON BOOKS.

DR. KLEINSCHROD is a strong upholder of the vitalistic theory of life, and in his recently published *Inherent Law of Life*,[1] an English translation of which has been prepared by Dr. LOUISE APPEL, he has given expression to his views at length. The book is a philosophical treatise, and contains much cogent reasoning, but tails off not infrequently into trivialities. The author sets himself to prove that there is an essential difference between the living world and the non-living world, and he comes to the conclusion that that difference consists in the fact that lifeless objects are in a state of equilibrium, and that the activities of the inanimate world involve a reduction of kinetic energy or living force, as he terms it, while living matter is able to overcome this tendency towards equilibrium, and to produce living force. There is thus an essential or inherent law of life which is not to be interpreted in terms of inanimate laws. The interpretation, indeed, if attempted, should be in the converse direction. Viewed in the light of this law, all the great phenomena of life have their meaning made clear; evolution, the struggle for existence, the purposiveness of life, are all manifestations of the action of this law, and are the inevitable consequences of the inherent necessity of obeying it. The book has for subtitle, *A New Theory of Life and Disease*, but there seems little justification for the latter part of this claim. The text of the new theory of disease is the Hippocratic rule—*πρῶτον τὸ μὴ βλάπτειν*. The law of life and the law of disease are one and the same. Life possesses sufficient recuperative power to overcome disease, except when it is weak. The ideas are certainly sound enough, but wherein their novelty lies is not easy to determine.

Dr. WALTER K. HUNTER has published in a volume his three "Dr. James Watson Lectures" on *Recent Advances in Haematology*,[2] delivered in Glasgow at the close of 1910, and originally published in the *Glasgow Medical Journal*. The lectures are based on the standard textbooks of haematology for the most part, and also on the literature of the subject. Dr. Hunter seems to have confined his attention exclusively to what has been written about the blood in England and America, to judge by the references given in his book, and has left the mass of Continental literature, excepting Armit's translation of Ehrlich and Lazarus's manual, severely alone. The first lecture gives a summary of the constitution of the blood and the methods of examining it; the second and third deal with a number of blood diseases and with the origin of the different blood cells. An appendix gives the methods of fixing and staining blood films. The coloured plate contains 42 reproductions of variously stained blood corpuscles, magnified, it is stated, 700 diameters.

The name of the translator and editor of the second American edition of Sahli's *Diagnostic Methods*[3]—Dr. POTTER—now deservedly appears upon the cover as well as the title page. The fifth German edition, from which this is derived, is a greatly altered work. Three hundred new pages of text and almost 100 new figures afford room for very thorough revision, and in the present case the revision is double, for the American editor and his specialist assistants have gone over the ground a second time and carefully filled lacunae. The increase in size of the ponderous tome is scarcely noticeable, but the quality of the paper and the print has suffered a little. It is unnecessary to indicate the scope of this well-known work, the popularity of which, says Dr. Potter, has exceeded in the translated form even that of the original. Among the many subjects that have required new treatment may be noted icterus, oedema, with the work of Starling, cutaneous electric resistance, Mackenzie's work on the heart and circulation, cardiolysis in relation to its physical indications, the Wassermann reaction, the Cammidge reaction (dismissed by the editor-translators as worthless), urinary separators, exploratory cranial punctures, new aspects of the utility of *x*-rays, and a hundred others. The book deserves, and will doubtless obtain, continued appreciation.

[1] *The Inherent Law of Life.* By F. Kleinschrod, M.D. Translated by Louise C. Appel, F.T.S., B.Sc., M.B., B.S. London: G. Bell and Sons. 1910. (Pp. 214. 3s. 6d.)

[2] *Recent Advances in Haematology, being the Dr. James Watson Lectures for 1910.* By Walter K. Hunter, M.D., D.Sc. London: H. Kimpton. 1911. (Med. 8vo, pp. 127, with a coloured plate. Price, 5s. net.)

[3] *A Treatise on Diagnostic Methods of Examination.* By Professor Dr. Hermann Sahli. Edited, with additions, by Nathaniel Bowditch Potter, M.D. Second edition. Authorized translation from the fifth, revised and enlarged, German edition. Philadelphia and London: W. B. Saunders Co. 1911. (Demy 8vo, pp. 1229; figs. 472. 27s. 6d.)

SCIENCE NOTES.

AN important contribution to the pathology of fishes has been made by Dr. H. C. Williamson in the latest annual report of the Fishery Board for Scotland. He deals with a variety of peculiar and interesting conditions. One of the most remarkable of these is the case of an angler-fish with only one eye. Judging from appearances the condition was congenital. The left optic nerve was entirely absent, and the orbit was filled with a mass of muscle, probably representing the eye muscles. The pituitary body was also considerably displaced. Otherwise the fish was almost perfectly symmetrical. A number of abnormal conditions in the cod are described, amongst which the most interesting are cases of hermaphrodism, which appears to be not uncommon in this fish. In each instance the testes and ovaries were both functional, and self-fertilization seems a not unlikely occurrence. Stone in the bladder is a more uncommon condition, and it is somewhat remarkable to meet with urinary calculi differing in no respect from those in man. In the case recorded by Dr. Williamson the stone measured nearly 3 in. in length. Tumours in fish are now so frequently met with that their occurrence excites little remark. They may be of a benign or malignant nature, and in histological structure bear a close resemblance to those met with in mammals. A number of these new formations are described in the present report. Of more unusual interest is the occurrence of sand-eels and crabs encysted in the body cavity of cod and haddocks. The explanation of this curious phenomenon appears to be that these animals on being swallowed by the fish pierce the wall of the stomach or one of the pyloric caeca and expire in the body cavity, where they are surrounded by a fibrous investment of inflammatory origin. The remarkable thing is that such an accident does not rapidly cause the death of the fish. It appears, however, to be not uncommon. Worm parasites are responsible for many pathological conditions in fishes, amongst which Dr. Williamson records a spotted condition in the skin of the cod, whiting and lythe, caused by a peculiar fluke parasite. He also notes the occurrence of threadworms in cod fillets, a condition which has not infrequently given rise to much perturbation amongst fish-curers in Aberdeen. The vitality of these worms is exceptional, and they are often found living a week after the fish has been pickled and cured. Several notes on the eggs and development of various fishes complete Dr. Williamson's interesting report.

What promises to be of useful application for museums and demonstration purposes is a solution invented by Wickerschener, of the Berlin Zoological Museum, for fixing and preserving plants and animals in their natural colours. The solution is prepared by dissolving in 3 litres of boiling water 100 grams of alum, 25 of sodium chloride, 12 of potassium nitrate, 60 of potassium carbonate, and 10 of arsenious acid. To this 1,200 c.cm. of glycerine and 300 c.cm. of methyl alcohol are added. Objects preserved in this liquid retain their form, colour, and suppleness to a remarkable degree. Even after a considerable lapse of time muscular tissue retains its fresh appearance, and can be cut as in the fresh state, and ligaments remain perfectly pliable, permitting the demonstration of movements as in life. The solution was patented by the inventor, but according to *La Nature* the Prussian Government bought the patent in order to make it common property.